



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

#4/Election
5-10-02
LJ

In re Application of

THOMAS G. LANG

Serial No. 09/852,616

Art Unit: 3617

Filed: May 11, 2001

Examiner: A. Vasudeva

For: LOW-DRAG HYDRODYNAMIC SURFACES

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GROUP 3600

RESPONSE

To the Commissioner of Patents and Trademarks

Sir:

In response to the office action dated April 12, 2002, the applicant provisionally elects claims of Group I and the Species I and traverses the requirement for restriction.

The inventions as described in the claims are neither independent nor distinct. In fact, the inventions as claimed arise from the same inventive effort. Where inventions are neither independent nor distinct, restrictions should not be required. Where inventions arise from the same inventive effort, restriction should not be required.

MPEP 802.01 points out that a sub-combination and a combination are not independent inventions, and that a process and an apparatus used in the practice of the process are not independent inventions. That same section points out that independent means that there is no disclosed relationship between the subjects disclosed.

The examiner has not made any requirement based on the subject matter being independent. Therefore it is understood that the examiner concedes that the subject matter is not independent.

The examiner's requirement for restriction is based upon his holding that the subjects are distinct. That is, as pointed out in Section 802.01, the examiner has held that the subject matter as claimed:

are capable of separate manufacture, use or sale as claimed,
AND ARE PATENTABLE (novel and unobvious) OVER EACH OTHER.

The examiner has held under Section 803 that the claimed inventions:

are able to support separate patents and they are ...
distinct (MPEP Section 806.05-806.05(i)).

However, Section 803 unequivocally states:

If the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to distinct or independent inventions.

So that Section 803 makes its point clearly, the serious burden requirement is repeated under the title:

CRITERIA FOR RESTRICTION BETWEEN
PATENTABLY DISTINCT INVENTIONS

Section 803 goes on to state that there are two criteria for a restriction requirement: one, that the inventions must be distinct as claimed; and two, that there must be a serious burden on the examiner if restriction were not required.

Section 803 goes on to state, under GUIDELINES, that an examiner must provide reasons and/or examples to support

conclusions. The examiner has never stated that there would be a serious burden on the examiner if restriction were not required. Indeed, there should be no serious burden on the examiner. The examiner in this case is well skilled in examining ships in Class 114 and particularly hydrofoils in the Subclass 274 and ported struts or foils in Subclass 278, which is indented under Subclass 274.

No claim is drawn to ship building, and therefore it is believed that no difficult search is required in Subclass 67A.

The subclasses the examiner has cited are all close together and are all within the subclasses assigned to Art Unit 3617 which the examiner regularly searches, and all require searching and indeed are indented under each other in the classic outline form. Indeed, it would not be unreasonable for the examiner to search three subclasses that were close together and indented. Therefore restriction should not be required.

The applicant notes that the examiner has noted that Group II claims should be examined in Subclass 67 of Class 114, but that subclass is indented under the Shipbuilding Subclass 65.

To the extent that 67A is an appropriate classification for the process claims, it is also an appropriate classification for the remainder of the claims, since all of the claims describe gas films and 67A is the only subclass in Class 114 that specifically indicates air films.

With regard to the examiner's specific points, in the following paragraphs it can be seen that restriction is not proper.

2. Groups I and II inventions are not distinct. Claim 153, for example, is substantially similar to Claim 62. Both groups result from the single inventive effort. Claim 79, for example, sets forth the specifics of the sub-combination of the hydrofoil as defined in claim 1. The combination as claimed in claim 1 sets forth the details of the sub-combination. The two-way distinctiveness required by 806.05(c) cannot be established. The combination as claimed in claim 1 requires the sub-combination as claimed. There is no separate classification, status or field of search as required by 806.05(c), because subclass 274, which is noted by the examiner for Group I, is simply a similar subclass of subclass 67A, which is noted by the examiner for Group II. Both subclasses would have to be examined in both cases.
3. The inventions of Groups I and II and Species I-XI, V, VI and VII are related because they all require the structure of Figures 1-5, and they all use the hydrofoils of Species II-V.

The inventions of Groups I and II and Species I-XI are not different combinations in that they do not have "different modes of operation" as required by 806.04. Moreover, where inventions are related as disclosed but are not distinct as claimed, restriction is never proper (MPEP 806). The

inventions are not distinct as claimed because each invention requires the low pressure gas releasing nose pieces as claimed. Moreover, there is no serious burden on the examiner because Subclasses 274 and 67A are both subclasses under Class 114, and both inventions I and II should be classified together in the same single subclass, 274, and all of the inventions as claimed should be checked in Subclass 67A, air films.

4. MPEP 806 provides that if the inventions are not distinct as claimed, restriction is never proper.

The hydrofoil craft as claimed in Group I claims is not distinct from the body as claimed in the Group II claims. For example, the hydrofoil craft as claimed in claim 1 (Group I) is not distinct from the body as claimed in claim 79 or the underwater surface method as claimed in claim 143 (Group II). The examiner's examples do not take into account the claims in which the apparatus as claimed cannot be used on a sensor, torpedoes, submarines, personal watercraft or motorized surfboards. The examiner's example is not correct. Moreover, Section 806.05(h) emphasizes "as claimed" and falls under the cautions of 806 and 806.05, both of which state, "where the inventions are related as disclosed but are not distinct as claimed, restriction is never proper". In the present case the particular criteria and guidelines of 803 must be followed in that there must be a serious burden on the examiner if restriction were not

required. In the present case, all of the groups must be searched in all of the subclasses which the examiner has pointed out. All are properly classified and searched together, and the search for one group would not be complete without searching all of the subclasses that the examiner has pointed out.

Patent and Trademark Office records indicate that the number of patents in the classes noted by the examiner is not excessive and would not suggest a hardship. For example, the numbers of patents in those subclasses since records are available indicates that only 253 patents have been issued in subclass 274, and fewer than 500 patents have been issued in subclass 67A. Both of those subclasses should be searched in any case. It is believed that the experienced examiner in this application is familiar with all of these subclasses. There should be no hardship on the examiner to complete examination for all groups.

The examiner's proposed Group I utilized closed cavities to reduce drag on underwater surfaces, and Group II utilizes both closed and open cavities to reduce drag. The two groups are related because they both reduce drag by using gas cavities.

Group I requires Group II to reduce drag in situations where Group I cannot reduce drag by itself. An example is a hydrofoil with closed cavities (Group I) that cannot reduce drag with closed cavities if it pierced the water surface; the reason is that the closed cavities would turn into open cavities. However, if Group II elements were added, including a fence, then

hydrofoil drag could be reduced by using closed cavities, in the region below the fence.

No examples are known where the Group II claims were applied to a towed body, torpedo, submarine, personal watercraft or motorized surfboard. No useful way to reduce drag on these bodies by using the Group II claims is known.

No Group I claims are patentable. Group II claims must be patentable, and vice versa.

Each claim is patently distinct from all other claims.

Claims 1-174 read upon the provisionally elected species.

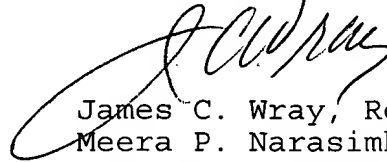
The applicant requests reconsideration. Claims 1, 62, 74, 101, 118, 125, 143, 152, 175, 182, 192, 193, 202, 204, 214 and 217 are allowable linking claims which link the hydrofoil craft hull and the hydrofoil. All describe the hydrofoil structure of Group I. All define the antifriction surfaces of elongated bodies (the hydrofoils) in many ways, which is encouraged by the Patent Law, Rules and established procedure. It is proposed that all claims be considered and allowed.

Alternatively, it is requested that the examiner consider claims to the hydrofoil craft of Figures 1-5 and 35-41 and their hydrofoils shown in Figures 6-22 and 24-27. Claims directed to those figures are claims 1-178. Claims 79-100, which define the hydrofoils as bodies; claims 105-124, claims 125-142 and 143-151, which define the hydrofoils as underwater bodies; and claims 152-220 as continuous underwater surfaces.

"Bodies" in Group II claims is intended to describe hydrofoils and hydrofoil shaped struts, which are hydrofoils. If the examiner's work will be facilitated by substituting "hydrofoil" for "body" throughout the Group II claims, such a change would be acceptable to the applicant.

Reconsideration and allowance of the application are requested. Reconsideration and withdrawal of the restriction requirement are requested.

Respectfully,



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May 8, 2002

Enclosure: First two pages of Class 114, with numbers of patents issued since 1976 noted by the examiners selected subclasses.

DECEMBER 1998

| | | | |
|-------|---|-------|--|
| | MOTHER SHIP, FLOATING LANDING PLATFORM, AND HARBOR | 58 | .Paddle wheelers |
| | | 59 | .Spindle |
| 263 | .Floating boat dock | 60 | .Canal and ferry boats |
| 44 | VESSEL RAISING AND DOCKING | 61.1 | .Multiple hulls |
| 45 | .Floating dry docks | 61.11 | ..With capsizes prevention or uprighting means |
| 46 | ..Sectional | | |
| 47 | ..End gates | 61.12 | ..Including a submerged hull (e.g., semisubmerged watercraft) |
| 48 | ..Elevators | | |
| 49 | .Camels, caissons, and pontoons | 61.13 | ...Vertically spaced from another submerged or semisubmerged hull |
| 50 | .Submerged | 61.14 | ...Having plural spaced struts connecting each submerged hull and platform |
| 51 | ..Hoisting | | |
| 52 | ..Air tanks | | |
| 53 | ...Camels, caissons, and pontoons | 61.15 | ..With connecting means permitting relative movement between hulls |
| 54 | ...Inflatable bags | | |
| 55 | ..Sand and mud loosening | 61.16 | ...Connecting means is pivotable arm |
| 55.5 | MOTORIZED SELF-PROPELLED WATERSKI OR WATERSCOOTER-TYPE VEHICLE (E.G., PERSONAL WATERCRAFT) | 61.17 |Arm pivots about a vertical axis |
| | | 61.18 | ...Connecting means permits transverse linear horizontal movement of hulls toward each other |
| 55.51 | .Having hull compartment drain or vent | | |
| 55.52 | .Having pivoted steering and towing mast for rider | 61.19 | ...Hull pivots about a vertical axis |
| 55.53 | .Having releasable hull compartment cover | 61.2 | ..Having a specifically defined hull shape |
| 55.54 | .With ski, pontoon, or hydrofoil providing vertical lift | 61.21 | ...Having lower hull portion asymmetrical with respect to a central vertical plane through that particular hull |
| 55.55 | ..And rider straddles seat | | |
| 55.56 | .Having standing rider | 61.22 | ..Having plural crossbeams supporting rigid deck means |
| 55.57 | .Having rider straddling seat | | |
| 55.58 | .Rider is prone or supine | 61.23 | ..Trampoline-type deck means |
| 271 | HULL OR HULL ADJUNCT EMPLOYING FLUID DYNAMIC FORCES TO DERIVE A LIFT OR ALTER TRIM, E.G., PLANING HULLS | 61.24 | ..Having seat |
| | | 61.25 | ..Inflatable-type hull |
| 272 | .Having airfoil | 61.26 | .Having specific dimensional or speed ratio (e.g., Froude number) |
| 273 | ..Movably mounted | 61.27 | .Having specific forebody |
| 274 | .Having hydrofoil | 61.28 | ..Including bulb |
| 275 | ..With control means responsive to sensed condition | 61.29 | ..And specific aftbody |
| 276 | ...Having feeler means | 61.3 | ...And specific midbody (e.g., waist) |
| 277 | ...Having liquid pressure sensor | 61.31 | .Having specific midbody (e.g., waist) |
| 278 | ..Ported strut or foil | 61.32 | .Having specific bottom |
| 279 | ..With shock damping means | 61.33 | ..V-shaped bottom |
| 280 | ..Having means to tilt or reposition foil or foil adjunct | 62 | ..Concave bottom |
| 281 | ...Steerable foil | 63 | ..Flat bottom |
| 282 | ...Having means to move foil to a retracted nonuse position | 343 | BOATS, BOAT COMPONENT OR ATTACHMENT |
| 283 | .Having laterally disposed skids or pontoons | 344 | .With wheeled buoyant landing or launching aid |
| 284 | .Movably mounted hull portion or hull adjunct | 345 | .Inflatable |
| 285 | ..Trim tab or hull plate | 346 | .Circular |
| 286 | ...With fluid motor | 347 | .Canoe or kayak |
| 287 |Expanding bladder | 348 | .Lifeboat |
| 288 | .Having fluid channeling or entrapping configuration | 349 | ..Enclosed |
| 289 | ..With fluid introducing means | 350 | ...With self-leveling passenger compartment |
| 290 | ..Plural channels | | |
| 291 | .Stepped hull | 351 | .Hunting |
| 292 | .Pontoon structure | 352 | .Sectional |
| 56.1 | DISPLACEMENT-TYPE HULL (e.g., specific aftbody) | 353 | ..With folding |
| | | 354 | .Collapsible |
| 57 | .Screw propeller type | 355 | .Hull construction |
| | | 356 | ..Metal |
| | | 357 | ..Plastic |
| | | 358 | ..Wood |
| | | 359 | ..Former and framer |

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| 360 | BOATS, BOAT COMPONENT OR ATTACHMENT | 102.19 | ...And traveler |
| 361 | .With means to prevent capsizing or sinking | 102.2 | ...And winch (e.g., capstan, driven pulley, windlass, etc.) |
| 362 | .Protective cover or shield | 102.21 | ...And sheave or pulley |
| 363 | .Boarding aids | 102.22 | .Having means to vary shape of sail (e.g., camber) |
| 364 | .Seat and foot support | 102.23 | ..Inflatable type |
| 65 R | .Deck or gunwale attachment | 102.24 | ..Batten |
| 66 | BUILDING | 102.25 | ...Having separate adjustment means for batten |
| 67 R | .Observation boats | 102.26 |For plural battens in a horizontal plane |
| 67 A | .Antifriction surfaces | 102.27 | ...Having specific construction |
| 68 | ..Air and oil films | 102.28 | ..Spinnaker pole |
| 69 | .Insubmersible vessels | 102.29 | .Specific sail structure or arrangement |
| 70 | ..Linings and fillings | 102.3 | ..Spinnaker |
| 71 | .Canal and ferry boats | 102.31 | ..Of laminate or composite construction |
| 72 | .Cabins | 102.32 | ..Constructed from a plurality of connected panels moveable relative to each other |
| 73 | .Freighters | 102.33 | ..Constructed from a plurality of edge connected panels |
| 74 R | ..Bulk cargo | 104 | .Reefing and furling |
| 74 T | ...Liquid | 105 | ..Fore-and-aft sails |
| 74 A |Floating tank | 106 | ...Rolling |
| 75 |Double hull or insulated tank | 107 | ..Rolling |
| 76 | ...Antishifting devices | 108 | .Fastening device for sail |
| 77 R | ...Ceilings and floors | 109 | .Rigging screws and stretchers |
| 77 A | .Sectional | 111 | .Running rigging |
| 78 | ..Horizontal sections | 112 | .Mast travelers |
| 79 R | .Bulkhead and compartment | 113 | .Hoops and connections |
| 80 | .Iron | 114 | .Cringles and hanks |
| 81 | ..Corrugated | 115 | .Clews |
| 82 | ..Tubular | 116 | BULKHEADS AND DOORS |
| 79 W | ..Welded joint | 117 | .Doors |
| 83 | .Wood | 118 | ..Automatic |
| 84 | .Bracing and staying | 119 | ...Sliding |
| 85 | .Sheathing and planking | 120 | ..Sliding |
| 86 | .Decks | 121 | BALLASTING |
| 87 | .Calking and seaming | 122 | .Antirolling |
| 88 | .Knees | 123 | .Floats |
| 89 | .Joints | 124 | .Shifting weights |
| 65 A | .Concrete ships | 125 | .Water tanks |
| 90 | SPARS | 126 | .Fins and boards |
| 91 | .Masts and masting | 127 | CENTERBOARDS |
| 92 | ..Swinging | 128 | .Steering |
| 93 | ..Cross and trestle trees | 129 | .Multiple |
| 94 | ..Coats, shields, and steps | 130 | .Vertical drop and pivoted swing |
| 95 | ..Heads and irons | 131 | ..Sectional |
| 96 | .Yards | 132 | .Pivoted |
| 97 | ..Trusses and parrels | 133 | ..Sectional |
| 98 | .Gaffs, booms, etc. | 134 | ...Fan |
| 99 | ..Pivoted | 135 | ..Lateral |
| 100 | ..Crotches and supports | 136 | ..Lateral swing |
| 101 | .Spar irons | 137 | ..Lateral tilt |
| 102.1 | .Fair leaders and chocks | 138 | .Vertical drop |
| 102.11 | SAIL OR CONTROL MEANS THEREFOR | 139 | ..Sectional |
| 102.12 | .Sail assembly freely held by rider | 140 | KEELS |
| 102.13 | .Having means to tension or stretch sail | 141 | .Vertical adjustment |
| 102.14 | .Having airflow control device for sail | 142 | .Bilge |
| 102.15 | ..Fairing | 143 | .Rocking |
| 102.16 | .Having means to stow, load, or unload sail | | |
| 102.17 | ..Including means to orient sail | | |
| 102.18 | ..Having gearing | | |
| 102.18 | ..Having rope or line (e.g., sheet) | | |